

### DETAILED ACTION

#### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 (lines 13-14), the following limitations are still confusing: "to form a p-n junction below a drain region and between a body region and the drain region", in particular, the term "below a drain region."

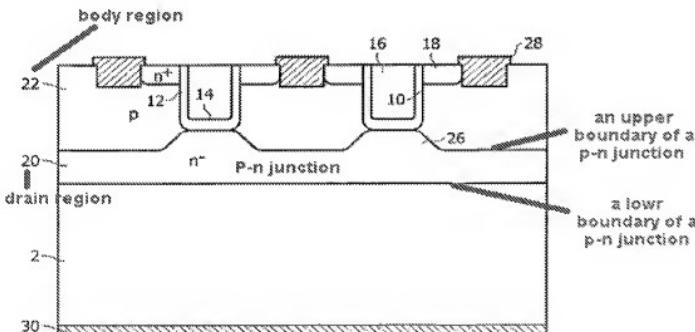


FIG. 2

As shown the constructed Fig. 2, a region below a drain region 20 comprises a lower portion of the substrate 2. However, based on the examiner's understanding, the entire p-n junction seems located between an upper boundary of the p-n junction and a lower boundary of the p-n junction but **not** extend down to the lower portion of the substrate 2, which is below the lower boundary of the p-n junction. By reciting "to form a p-n junction below a drain region", it implies that the p-n junction would also cover the portion below the lower boundary of the j-n junction. If the entire area of the p-n junction were located between the upper boundary of the p-n junction and the lower boundary of the p-n junction, it would be better of redefining the p-n junction as follows:

-- providing a substrate having a first major surface having a low-doped region at the first major surface, **the low-doped region having a first boundary away from the first major surface** and having a concentration of less than  $5 \times 10^{14}$  cm.<sub>-3</sub> at the first major surface; .....carrying out a diffusion step to form an insulated gate field effect transistor structure in which the body implant diffuses towards the substrate in the low-doped region to form a **p-n junction located between the first boundary of the low-doped region and a second boundary adjoining a body region and the drain region.....** (Emphasis added)

Claims 2-10 are also rejected for the same reasons as claims 2-10 are dependent from claim 1 and thus inherit the same deficiencies.

***Conclusion***

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-ming Lee whose telephone number is 571-272-1863. The examiner can normally be reached on Monday through Friday (8:30 ~ 17:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2823

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/Hsien-ming Lee/  
Primary Examiner  
Art Unit 2823

Oct. 30, 2009